

IN THE DRAWINGS

Replacement sheets of drawings including Figures 1 - 3 are attached.

Attachments:

Replacement Figures 1 – 3

REMARKS

This response is intended as a full and complete response to the non-final Office Action mailed April 4, 2006. In the Office Action, the Examiner notes that claims 1-14 are pending of which claims 1-2, 5-9, and 12-14 are rejected and claims 3, 4, 6, 7, 10, 11, 13, and 14 are objected to. By this response, Applicants have herein amended claims 1, 6-8, and 13-14. No new matter has been entered.

In view of both the amendments presented above and the following discussion, Applicants submit that all of the pending claims are allowable.

It is to be understood that Applicants, by amending the claims, do not acquiesce to the Examiner's characterizations of the art of record or to Applicants' subject matter recited in the pending claims. Further, Applicants are not acquiescing to the Examiner's statements as to the applicability of the art of record to the pending claims by filing the instant responsive amendments.

DRAWING OBJECTIONS:

The Examiner has objected to the drawings because Figures 1 – 3 should be labeled with descriptive legends. Applicants have amended Figures 1 – 3 as suggested by the Examiner, and replacement Figures 1 – 3 are submitted herewith. As such, Applicants request that the Examiner's objection be withdrawn.

The Examiner has objected to the drawings because Figure 1 should be designated by a legend such as –Prior Art–. Applicants respectfully submit that Figure 1, as originally filed, is labeled as –Prior Art–. As such, Applicants submit that the Examiner's objection with respect to Figure 1 is moot and should be withdrawn.

REJECTION UNDER 35 U.S.C. §112

The Examiner has rejected claims 6-7 and 13-14 under 35 U.S.C. §112, ¶2, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Examiner finds that there is

insufficient antecedent basis for the limitation “the maximum packet size” in claims 6-7 and 13-14.

In response, Applicants have herein amended claims 6 – 7 and 13 – 14 to replace “the maximum packet size” with “a maximum packet size”. As such, Applicants respectfully request that the rejection be withdrawn.

REJECTION UNDER 35 U.S.C. §102

A. Claims 1, 2, 5, 8, 9 and 12

The Examiner has rejected claims 1, 2, 5, 8-9, and 12 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,771,663 to Jha (hereinafter “Jha”). Applicants respectfully traverse the rejection.

In general, Jha teaches a scheme for transporting hybrid data over optical networks. As taught in Jha, packets having a plurality of different packet types and lengths are received and added to a SONET/SDH Synchronous Payload Envelope (SPE). Jha, however, does not teach each and every element of Applicants’ invention as recited in independent claim 1. Namely, Jha fails to teach, show, or suggest at least the limitations of “wherein the n received packets have a common traffic characteristic and n is determined based on the common traffic characteristic and at least one packet characteristic, wherein the at least one packet characteristic comprises a size of the common header, a size of the content information part of each of the n received packets, and one of a size of the payload of each of the n received packets or a maximum possible payload size of a received packet having the common traffic characteristic,” as taught in Applicants’ invention of at least claim 1. Specifically, Applicants’ claim 1 positively recites:

- A method for concatenating packets to be transmitted from a first node to a second node, the method comprising the steps of:
- (a) receiving packets having at least one traffic characteristic from at least one input port;
 - (b) concatenating n received packets to form a concatenated packet, wherein the concatenated packet comprises a common header, a content information part of each of the n received packets, and a payload of each of the n received packets; and
 - (c) transmitting the concatenated packet from the first node to the second

node, wherein the n received packets have a common traffic characteristic and n is determined based on the common traffic characteristic and at least one packet characteristic, wherein the at least one packet characteristic comprises a size of the common header, a size of the content information part of each of the n received packets, and one of a size of the payload of each of the n received packets or a maximum possible payload size of a received packet having the common traffic characteristic.

(Emphasis added.)

Applicants' invention is directed toward concatenating packets to be transmitted from a first node to a second node. As taught in Applicants' claim 1, n received packets are concatenated to form a concatenated packet having a common header, a content information part of each of the n received packets, and a payload of each of the n received packets. The number of packets (n) concatenated to form the concatenated packet is determined based on the common traffic characteristic and at least one packet characteristic where the at least one packet characteristic includes the size of the common header of the concatenated packet, the size of the content information part of each of the n received packets, and one of either the size of the payload of each of the n received packets or a maximum possible payload size of a received packet having the common traffic characteristic.

By contrast, Jha merely teaches that variable length packets are added to a SPE. The SPE includes an SPE overhead portion 202 including section, line, and path overhead, packet headers 204a – 204n associated with packets added to the SPE, and the packets 220a – 220n added to the SPE. Jha, however, is completely devoid of any teaching or suggestion of determining a number of packets which may be included within the SPE. Rather, Jha merely teaches that packets continue to be added to the SPE until there is insufficient space left in the SPE for additional packets to be added. As such, Jha must also fail to teach or suggest determining a number of packets which may be included within the SPE based on a traffic characteristic common to each of packets included within the SPE and at least one packet characteristic, much less determining a number of packets which may be included within the SPE using the size of the SPE overhead portion 202, the size of each of the packet headers 204a – 204n (which Applicants maintain does not even teach or suggest the content information part of Applicants' invention), and one of the size of each of the payloads 220a – 220n or a

maximum possible payload size of a received packet having the common traffic characteristic.

In the Office Action, the Examiner cites specific portions of Jha as teaching Applicants' limitation that n is determined based on the common traffic characteristic. Figure 7 of Jha cited by the Examiner, however, merely shows the format of an SPE, which clearly fails to teach or suggest determining a number of packets to be concatenated to form the concatenated packet. Furthermore, the Examiner cites Col. 2 Lines 22-28, 36-41, and 45-51 of Jha as teaching Applicants' limitation that n is determined based on the common traffic characteristic. Specifically, the Examiner states "...wherein each type of packets, e.g., ATM cells, IP packets, etc, has same 'common traffic characteristic' such as ATM, IP, etc, and carries by the SONET SPE as disclosed in col. 2, lines 22-28, 36-41, 45-51; through the use of fixed size virtual tributaries disclosed in col. 1, lines 36-39..." (Office Action, Pg. 4).

Applicants respectfully submit that the Examiner fails to address Applicants' limitation of "wherein the n received packets have a common traffic characteristic and n is determined based on the common traffic characteristic and at least one packet characteristic," as taught in Applicants' claim 1. The Examiner merely asserts that different types of packets, e.g., ATM packets and IP packets, have a common traffic characteristic without actually identifying a common traffic characteristic or explaining how such different packets have a common traffic characteristic. Furthermore, the Examiner merely states that a SONET SPE carries the different types of packets, failing to even assert that the cited portions of Jha teach or even suggest Applicants' limitation of determining the number of packets n concatenated to form the concatenated packet, as taught in Applicants' invention of at least claim 1. Moreover, the cited portions of Jha merely state:

"One method for data transmission is to use the entire SONET SPE for data packets. The SONET payload area is filled with IP packets using Packet-over-SONET (POS) packets. POS packets are packets by 0x7E (Hexadecimal) at both ends of a packet, with a framing using PPP (Point-to-Point Protocol). Many packets can be put inside a single SONET SPE." (Jha, Col. 2, Lines 22-28).

“Another method for data transmission is to use the entire SONET SPE for ATM cells. In this case, a SONET SPE is filled with ATM Cells. ATM cells are delimited by their fixed length, and are tracked by doing a hunt for their header checksum byte. Services such as T1, Frame Relay, Ethernet, etc. are transported over ATM using standard protocols.” (Jha, Col. 2, Lines 36-41).

“Another method for data transmission is to use the virtual tributaries (VT) for data packets and ATM cells. In this method, a SONET SPE is partitioned in many fixed-bandwidth slots called virtual tributaries (VT). For data transport, some of these virtual tributaries may contain T1/T3 type of fixed-bandwidth traffic while others are used for transporting packet data packets such as ATM and IP.” (Jha, Col. 2, Lines 45-51).

“SONET was designed to efficiently carry telephony Plesiochronous Digital Hierarchy (PDH) channels such as T1/T3. This was easily achieved by dividing the payload area in fixed slots called virtual tributaries (VT).” (Jha, Col. 2, Lines 45-51).

The cited portions of Jha are completely devoid of any teaching or suggestion of determining the number of packets n to be concatenated to form the concatenated packet, as taught in Applicants' invention of at least claim 1. Rather, the cited portions of Jha merely discuss different methods of data transmission, such as using the entire SPE for data packets, using the entire SPE for ATM packets, or using virtual tributaries for data packets and ATM cells. The cited methods of data transmission are completely devoid of any teaching or suggestion of determining the number of packets n to be concatenated to form the concatenated packet, as taught in Applicants' invention of at least claim 1. Applicants respectfully invite the Examiner to point out where in the cited portions of Jha there is any teaching or even suggestion of determining a number of packets, much less determining a number of packets n to be concatenated to form a concatenated packet, as taught in Applicants' invention of at least claim 1.

Furthermore, the SPE overhead portion 202 taught in Jha does not teach or suggest the common header of Applicants' invention of at least claim 1. Applicants' invention seeks to maximize the number of packets which may be concatenated by finding commonalities in the header fields and associated header values of each of the n received packets, and forming therefrom a common header so that header fields and values common to each of the n received packet are not repeated. By contrast, since Jha teaches a SPE including different packet types having different header formats, Jha

simply does not teach or suggest the common header of Applicants' invention of at least claim 1. Rather, Jha clearly includes the full header of each of the packets inserted into the SPE (denoted as packet headers 204a – 204n in FIG. 7 of Jha). Moreover, packet headers 204a – 204n, as taught in Jha, are clearly different from the content information part of each of the n received packets, as taught in Applicants' claim 1.

As such, Jha is completely devoid of any teaching or suggestion of "wherein the n received packets have a common traffic characteristic and n is determined based on the common traffic characteristic and at least one packet characteristic, wherein the at least one packet characteristic comprises a size of the common header, a size of the content information part of each of the n received packets, and one of a size of the payload of each of the n received packets or a maximum possible payload size of a received packet having the common traffic characteristic," as taught in Applicants' invention of at least claim 1. Therefore, Jha fails to teach or suggest each and every element of Applicants' invention of at least claim 1, as arranged in the claim.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added)). The Jha reference fails to disclose each and every element of the claimed invention, as arranged in the claim.

Therefore, for the reasons discussed above, Jha fails to teach, show, or suggest each and every element of Applicants' invention of at least independent claim 1. Accordingly, Applicants submit that independent claim 1 is allowable under 35 U.S.C. §102. Similarly, independent claim 8 recites relevant features similar to the features recited in independent claim 1. Accordingly, Applicants submit that independent claim 8 is also not anticipated by the teachings of Jha and, as such, fully satisfies the requirements of 35 U.S.C. §102 and is patentable thereunder.

As such, Applicants submit that independent claims 1 and 8 are allowable under 35 U.S.C. §102. Dependent claims 2, 5, 9, and 12 depend, either directly or indirectly, from independent claims 1 and 8 and recite additional limitations therefor. Thus, and for at least the same reasons discussed above with respect to claims 1 and 8, Applicants

submit that these dependent claims also are not anticipated by Jha and are allowable under 35 U.S.C. §102. Therefore, Applicants respectfully request that the rejection be withdrawn.

ALLOWABLE SUBJECT MATTER

Claims 3-4 and 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Examiner finds that claims 6-7 and 13-14 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. §112, ¶2 and to include all of the limitations of the base claim and any intervening claims. Applicants thank the Examiner for indicating allowable subject matter with respect to these claims but believe that, for at least the reasons discussed above, independent claims 1 and 8 are allowable over the prior art of record and that claims 6-7 and 13-14 are patentable under 35 U.S.C. §112, ¶2. Thus, Applicants respectfully request that the Examiner's objection to claims 3-4, 6-7, 10-11, and 13-14 be withdrawn.

SECONDARY REFERENCES

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to Applicants' disclosure than the primary references cited in the Office Action. Therefore, Applicants believe that a detailed discussion of the secondary references is not necessary for a full and complete response to this office action.


CONCLUSION

Applicants submit that claims 1-14 are in condition for allowance. Accordingly, reconsideration and allowance are respectfully solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Michael Bentley at (732) 383-1434 or Mr. Eamon J. Wall, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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